Claims

1.    Radar unit comprising

an antenna, an arbitrary waveform generator (AWG 9) issuing a an arbitrary (peri-
odic) radar waveform signal at a given pulse repetition frequency (PRF), the AWG
unit being adapted for adjusting the phase of the radar waveform signal as a func-
tion of a phase adjustment signal,

a transmit amplifier (TX) coupled to the antenna,

a receive unit (RX) coupled to the antenna,

a 2D filter for generating associate values of radar response and coordinate data,

at least a noise prediction means coupled the receiver for receiving at least one
prevalent radio frequency interference (RFI),

a demodulation and decoding bank (10) comprising known information on the
modulation and coding principle of the prevalent RFI signal, the RFI signal typically
operating according to a predetermined refresh frequency at which redundant in-
formation is repeated (50Hz),

the noise prediction means (3, 4, 5, F1, 7, 12 ) receiving, demodulating and decod-
ing the information content of the at least one RFI signal.

2.    Radar system according to claim 1, wherein

the noise prediction means generating a phase adjustment signal (S3) effecting
that the arbitrary radar waveform signal is changed such that for a given RFI signal
the phase of the radar signal is synchronous with the periodicity of the RFI signal.

3.    Radar unit according to claim 1, wherein

the predicted RFI signal is subtracted from the combined radar and RFI signal.

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5    4.    Radar unit according to claim 2, wherein the frequency spectrum is divided into a plurality of sub-channels, each sub-channel corresponding to a regulatory radio channel used for one radio or television information source, the radar unit comprising a noise prediction means for each RFI sub-channel overlapping with the radar range.

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